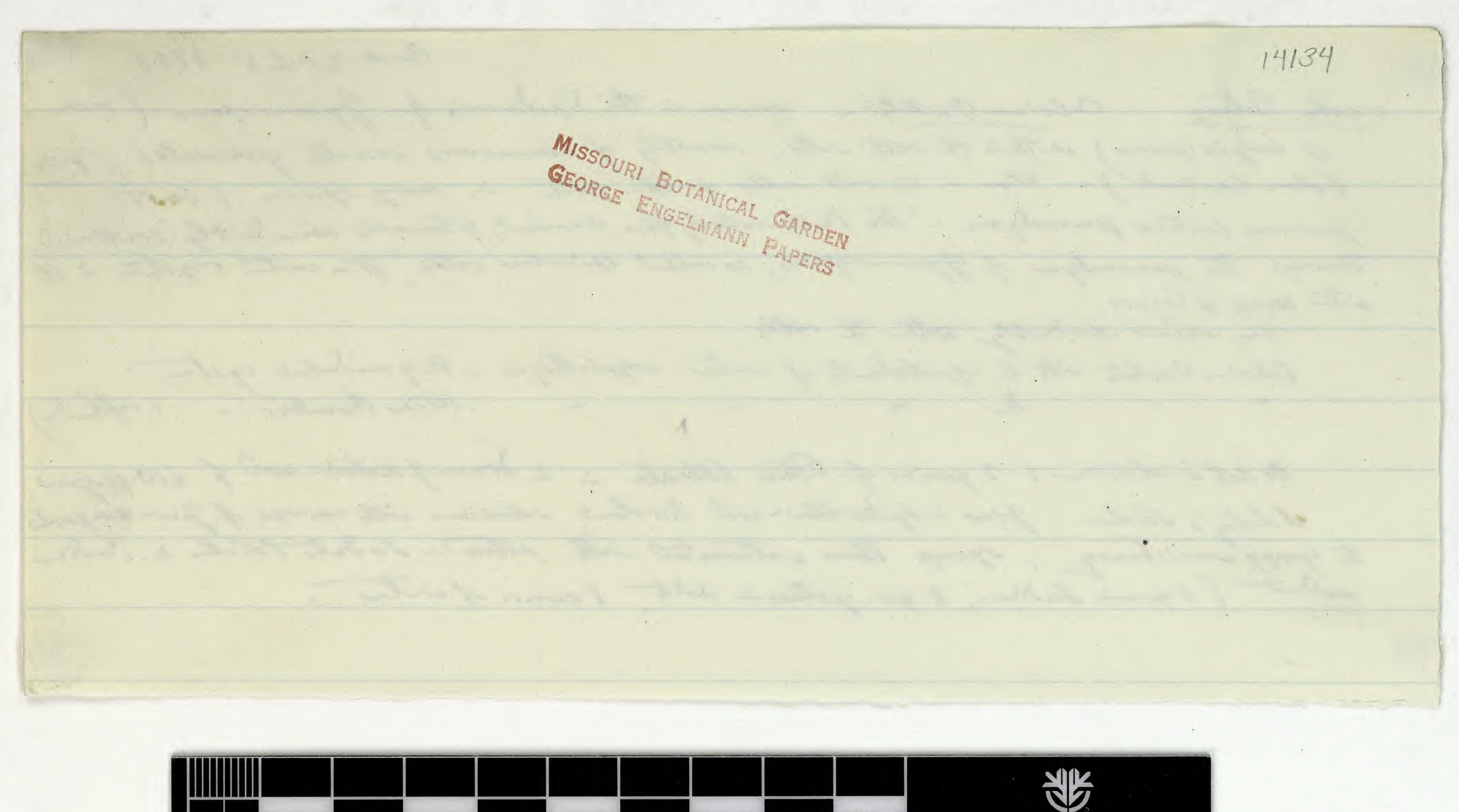


Comony out 3 7883 Jacks Bottomy Colorium Oxalate is common in the Epidermis of Jymnospers (nave in agis sperms) within the rell wells, consisting of numerous ornall granules / xix Solver (autoch) - also in the cell wells of the part, in many spering (bast priming cortine parenchy un. The thick walled, of branched, fibreally about the scattered Through the parendy un of gymerspers, so rolled spiralen cells " ff- cate ofthe it They one with the cells loi-, oxalate with 6 agrobalents of water completifies itt quadration system
" 2 a " . Kliko Kombin a (rephily) Odlaring oxalate with 6 agreetalents of water Me Keb is solution: 3 grains of Blass Chlorate in 2 draws of killing word of 4.10 sp. gon. Scholy's solution: Jine in hydrorllow and disoland station with excess of Jour evapored to sympy was is fenny, symp these solutated with potential of Jodely solch & iale adred I gover Ladie, 3 gov. potessi idt 1 ourie of wiles.







De Bay Vergl. Anstonie

Combridge Orl10 1883

p. 524 In the head wood the rolls under the minoring show no change but the life foreign for sap wood consists merely in the infliction of the menebanes with porigon organic bodies (classic, estant, resin is) on in the filling up of their interior with such

1-25 Woods with contains resin, this way acrownelle in old wood to such an extent, that the original cell live is complete abolished (verdingt)

Leftheting of wood with Siliving and in Chrypobelen, Teak wood

(Fectionis granding) to good in heart wood, such in the sap.

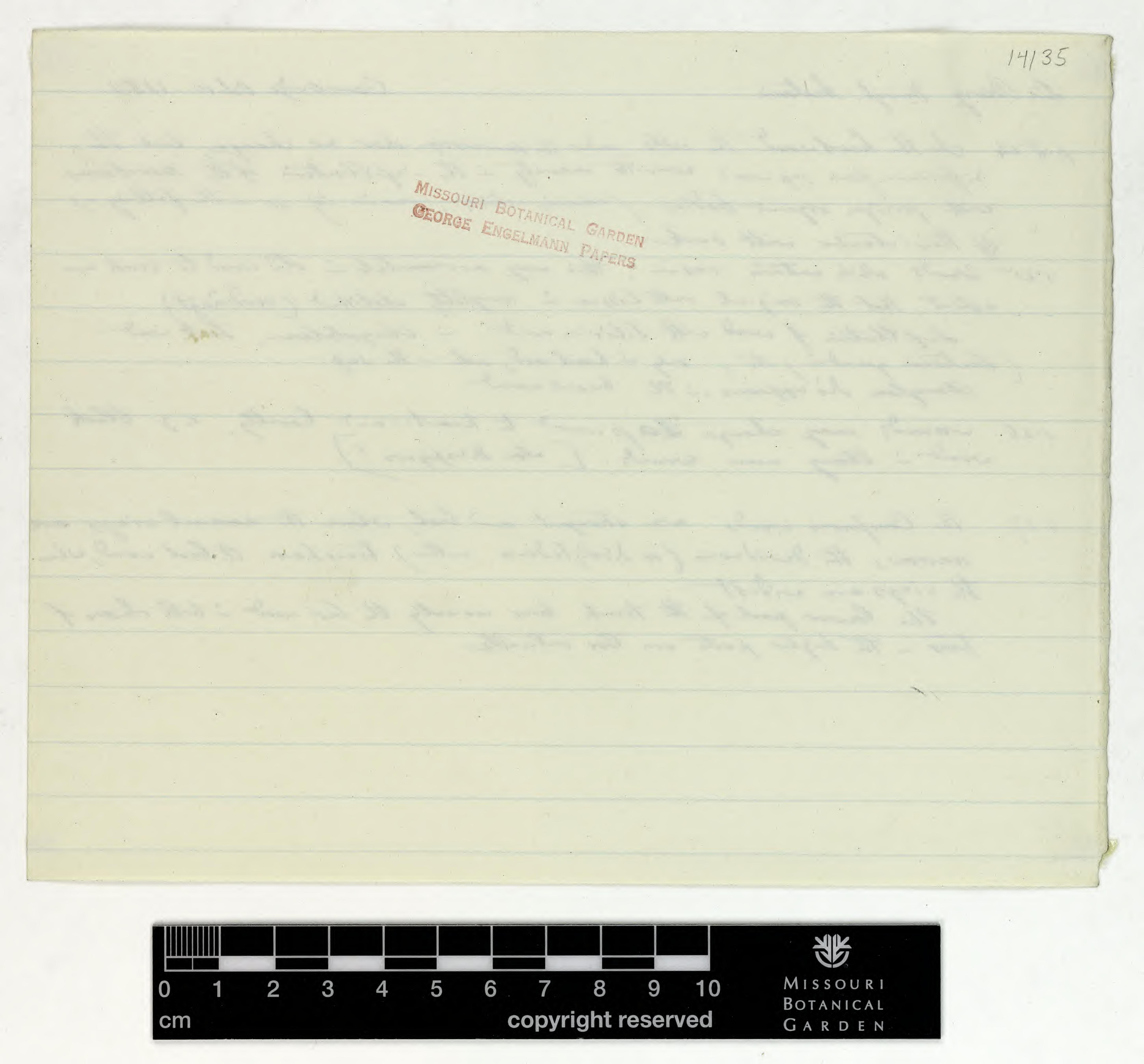
Chryston dis appears in the heart wood.

vood i llong near would [also dispyros!]

127 The Conferons woods are strongest and best, where the annual rings are narrow; the deviduous (or diolyledons nother) trushave the best wood, when the rings are wishest.

The lower pash of the trush has usually the best wood i both classes of trees - the higher parts are loss valuable.



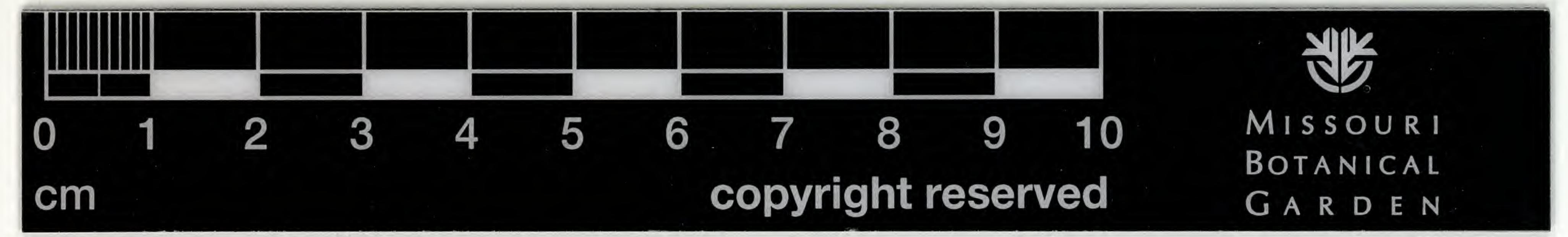


De Bary Vergl. Ant. (Com. Gride Och 10 1883) p. 133 Soler enchym, term introduced by Methenius, are strongthenry apparatus
ensentially mechanical, here no absinisher lation front.

The same in the pears, but short dong in many distifledors, also called bash fibres - libriform fibres. also i Palms ets, Askepies, Combons (Jute) p. 456 Confers (except daguer) have all resinducts, external or external. p. 493 The servendary wood (allowed made after the first year) consists of cells,
trachere, and delerenchyme, but most elements live apt to berown
With walland and solventie. The trackers are found in the form of versely and as trackerder p. 162. Hugare tradam with fibre like Thekening (spiral-ring - ned-trachere)

2 dotted or) pitted trachere 3) traberalete trachere

mill of the trackers Cut Gerens a Opention have netted versely 515. Change of the fissur forms in the assumed rings; of vormal & autumned cool and always) Change from vernal to autien nel wood sudden or gradual used comprises i Comform, the wood of which coursets only of Ancheity and middley mays . Spring Vernel Indeids are wider usually 4 augles (also 5th 6 - angles) it transverse section, dutuml vond has compresed truckings is I ferred regions of the annual rings groups of very thick walled over



trackerides appear sometimes, shirt in fransoverse section show I suffer,

(Boownish) ring segments similar to the auctional word. Teach are

ford in Pleas sylvestry in the innumber of the sess off in the order amount

rings [Roside Elestric ?]

I would be suffered booker is compred entirely or principally

of surredymen (Money, Robinia, Amergha, gladsohni traginess Catalian, filenters)

the sells of the auctional weed have them wills the the initial ones.

In general Cadamas, tragines the vessels are write in vernel word, form

20 sometim in the other cater word.

"Operation heartlessin al Carolina" seems to lack the could rings, Arm carrier some

Times

Times

The general states trying trees have sometime seemether or seemianual

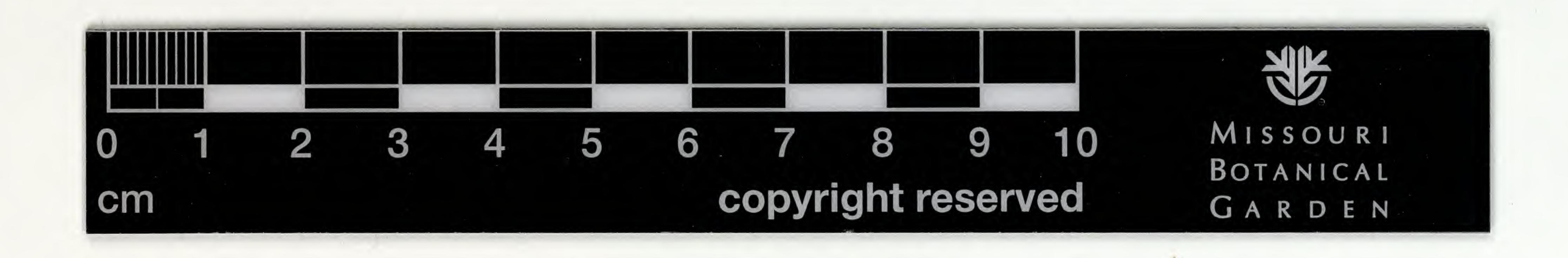
rings? Astronomia digitate is laid to show this, Times, Casuariae have

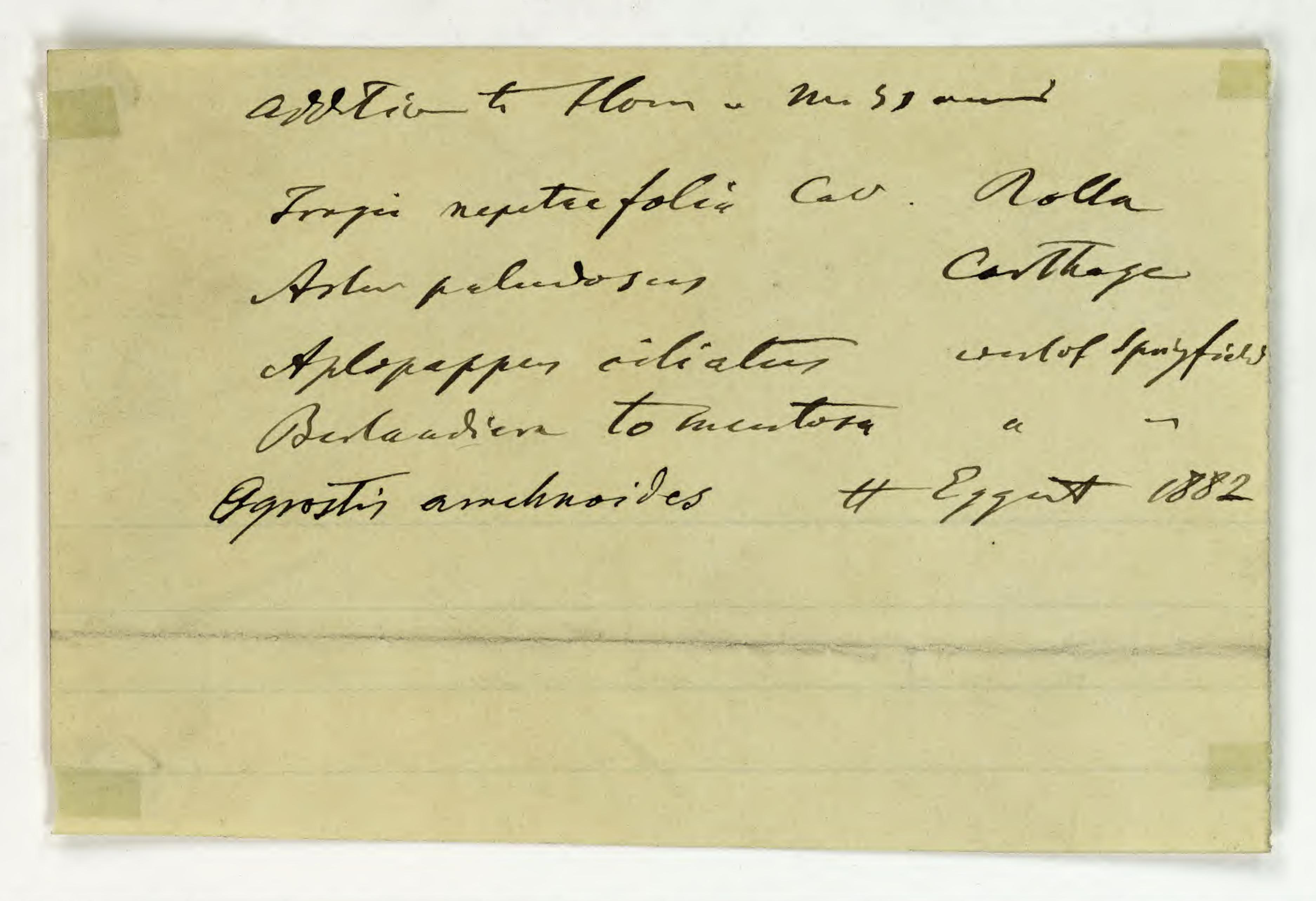
offer consenting lines event simulate anomal rings— but are existing

resignized as wanting the autumnet wood and its characteristic structure

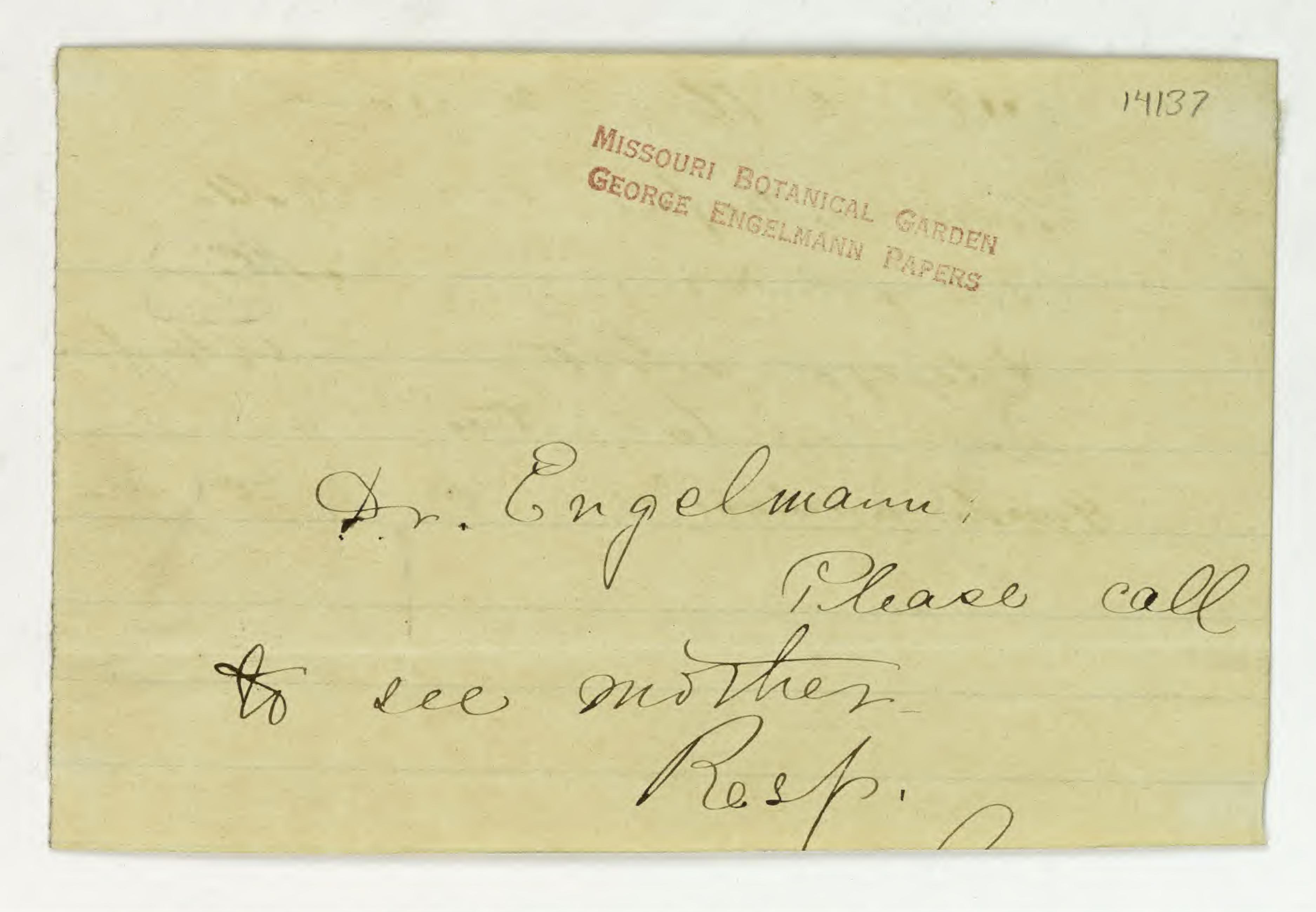
191 In most deridens trus the upper side of latent [konjointel?] Emaches is
the thether one, in Carifers (also in Cartanea, nonstigue) the lower side is the
thether prevalent (gefordula) side.

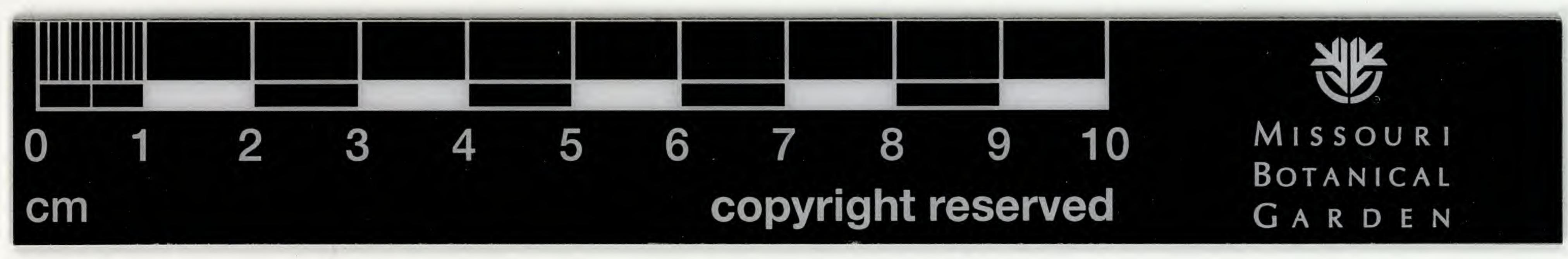
MISSOURI BOTANICAL GARDEN GEORGE ENGELMAND PARES











No of the Herbanium / of the W. A.N.S. Notes and Observations made in comparing Forrey o Herbarium in New york March 1840. Baptisia sphaerocarpa Nutt very different from the eastern B. tinetonia under which name I have had it. Baptisia leurantha TAG. our western B. alba. The true alba grows southeast and is a very slender plant. Malva Tapaver Cav. is my hispida, acrosding to Torrey; opinion, our north american plant is certainly zynonymous with Nattalle Nuttallea cordifolia, and Loaven conthis Malva triangulata, which last one is very different from Malway Houghtoniana. This M. Houghtonian Is synonye with my Les accer i Visa Braun: he says, it is a Sphaerateca D'aptisia mega carpa Chapm. appears to be my 6. coerulea four near Fort Gibson. Examine few Mer! Acaria hirta Nutt is my Acaria from the Gark mountains near Lot gibson, certainly no Sanlingtonia. Dalea lanata Spreng is undoubtedly the same as Nuttall, D. langinosa, Me first name being older must be preserved. Leaven wirthea Michauxii Tom is my Platysper mun, which is very different from the true Matyspennum (Hooken Amorpha leevigata Nuttall is undoubtedly my broad leaved variety of A. fruticosa from the Mannelle, Akansus Sephrosia holoserirea Nutt is our Missouri plant but c'estainly but a variety of the more glabous castern J. virginica Tephrosia snobnychoides Nutt is my Av kansas plant, which I had rons idered to be pauxifolia Natt. Belleville, shirth I had thought to be a little diam Chitopappa asteroides Dex XX Mit I is my Asteridium ramos isianum. Has any attention been paid to the sterile Disflowers : Discopleura Nuttallie der (or puhaps D. capillarea Dei?) is the umbelliferons plant, which I found in such large greatities

near Lott Gibson, but never in Seed. I am not quite restain Though. My plant rather resembles our spectimen Alerted by Dr. Michen which I find named Leptoraulis -The Genes Leptorquelis is in great disorder, and I can glean no information from what I find here. Engium aquationem Mx The common plant, in very Different forms and varieties. Engium prostratum Nett from Arhansas, resembles somewhat my specimens from there, though I am not prepared to say that they are the same. Enjagin gracile Bald. is certainly an other one, as well as E. ovalifolium Le Conte which is much layer, Rydworty le aminiana may be Lindheimers Mant MISSOURI PATANICAL GAI from New Orleans. GEORGE ENGLLMANN PAI Impruien also purpureum ven similar to some gellow. flowerd sperimen, i my herbania, but purple, Imgenium barbinode is in Torrey's Herbanium from South Carolina & Kentucky; fruit much alated. Whether if is really Im. burbinode appears to be doubted The umbellifenous plants are in great disorder Janux trifuliatour ! is not in Millouni. All our plants are O! quirquefolis, and O! trifolis is a very distinct plant, and much smaller with a round fre, My Mubble ferous plant from Allansas, burren branch of Illinois noen (with Cartus, Infolium, Rudleithia et) is here from Augusta, Georgie, without Hame. _ hond it be nothing but my Cherophylleun creature? - Chaerophyllum erectum mini is certainly agood species; fleeing are in Torrey's Herbanium from New Weans; and a sperme with hairy, or slightly pulses cent fruit, without locality Chaëro phyllum procumbens las vargum is here from Miss. 75 ppi _ both species appear to vary with smooth hairy and very pubescent fruit.



· Seuredanum from western Mussouri I do not find in this Kerbanium, Though a great many Theries of Veuredanum from California and Fregan are here. Archemora nigide Der is night. Tolytaenia Nuttalli Dec is the Houis plant that supposed an Angeliëa. Trepovarpus Athura Lac is undoubtedly my Akansas plant with the odour of Saucus. Nemophila pharelioides Nis night Ellisia microcalyx Nutt_ is undoubtedly my Mant from the Arkansas bottom, mistaken by me for E. nyrtelea. Lateral segments of leaves toother on the upper side. Ellisie ranunralarea appears to be similar but the segments of leaves are too thed on the lower side. LMANN PAPERS Ellisia Nyctelea L' is our Adouis plant, though it spreas to be unknown, that all the larger specimens have flowers in racemes, this circumstance misted me. The never fand Nuttells E. ambigua which has some similarity with ? microcalyx, but has recember flowers and a carrest of at least double size. Pharelia from Arhausas d'ean not well make out. It is not the I hardia hirsuta hutt, which I have from Jexas Hydrophyllium marrophyllium Nitt is my small merian from the Taline Allansus. Onosmodium molle from Horida appears to be someshut different from our Plant, but the O hispidum My which is here from Naw Gersey is certainly quit an other thing. It appears to me not unprobable that our Hant may be Kunth's O. strigosum. The mame is a great deal more appropriate than O. molle! Lithospermum lineanisplium Goldie is my apalum. L'aprilem is quite another plant. My plant is in Torrey!



Canothus americana var Pitcheri from Missouri & Alex is the pubescent variety of the common plant. C. ovalis Bigolos. smooth and pubercent, from Akansas is undoubledly synonymous with my lancedates, and the same as the small specimens from near dittle Rock is my Ahhansas Claint Monnies carolinianus is the Adocuis plant Chamus lanceo latus which I had named Ah. frangulorides. Hantago gnagshalordes Nulls is my curton which is probably only a variety of Cavilage anistata Mx No doubt our now exist of the identity of their plant, and of its entire defterence from It. pusible. Sabbatea campestris Mutt is my Arkansus plant Boch meria oglindrica is undoubtedly all what I have The lateriflom I cannot find in this Herbanium It is probably the same thing Utica purpurascens Nett is the small plant from Arkansas Cottom i April. Untica gracilis Olas. (here from Kentucky & Whang) is my piluliperous mettle from FortGibson. Unix chamaedy sires is another plant. Hedyotis glomerata appears to be somewhat similar to the plant I called A. ovala . Whother the same or not d'oun at present not deside. Houstonie purpuru à is my latifolie from Westen Al Houstonie overulen very probably my caespetoze plant from Little Nork my supplifolia Nº 437. Houstonia ciliolata Tom is perhaps the common missoniplant, though I am nove inclined to consider it as Houstonia Congrisolia Mx Houstonia gravilis Mutt is very propably mine from Fort Smith though it may perhaps be A. temes folia M?



Notes from Torrey's Herbanium. 2. Houstonia rupestris Aat my longifolia from Alton? Diodia virginia is correct. Galium tinitorium, with four ovate or narrow languales leaves Doubtfull, wether I have it. Galeium bracteosum n. sp. is here without a name from Red niver and dexas. Corydalis orgstallina n. sp. is undoubtedly a species different from aurea : capsule ovate terete (not korulose, clongated) rovered with pelleurid glands. It gis here as a variety of aurea from Alausus Corydules aurea all my specimens from Mh Opico and Missippi, flowers lange ar small braits very varying Constilis glacera has reddish flowers, with slight yellowish Tinge, very long (1-1/2) not very tomlose fruit, as Extremely small fracts. The Caurea may be divided in two varieties ! small flower, and long pied unvale of the fruit, 2. large flower a smoller preducal. the prist. is my Stdowis plant Clematis Borna Clematis Titcheni very probably the Akaujas plant - Cl. veticulatu from Denide appears different Prismato carpus parado pus linte is my Campanul lejstavina This mato carpus budovicianus hutt is my mediana Lobelia Costashya Dec is rommon round statuis on the barrens, and always later than the True of. Clay tomiana with which I had it confounded; it is characterized by the Segments of the calyx being sagittate Denothera speciosa Nutt is our western plant, with reddish white flowers, from western Missouri & Arkanse, Ndora canadensis is the plant of our lakes, examination had put down as Shich I won'thout further Potamogoton densus. Nemostylis species not named is Lindheimer's Plut form Texas, shiel resembly Crocus. It is here also for Texas

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
willy from forest the Marian. In. Alisma søstratum Nutt synonymus will Sagittania alismoides is our Hant from the latter of the american Botton, intermidiate between Alisma and Lag. Harra Sagittania natans is undoubtedly the Hunt which I vollet de vithout flower in small streams north of Little Rock, Arkansas Sagittania the large procumbent or rathe radicant plant, with lange, obtuse, nerved leaves and reticulated leaves, is here from Nattall without locality and name. We have it from the American Cotton Lepidium suderale I said to grow near It Louis, to gether Cardamine ludoviciana Natt is our common plant, the carloest onwiferous plant in Thinky. Cardamin virginiana is the Mant from Huchenthal Grande which Torrey considers as only a variety of Chirsula, Arabis dentata Torry & Gray is my plent from the Missinippi bottom, Shith I got from De Frank by the lane of A. petraca Arabis hissula - Turnitis hirsula is here from cast and west, hirsute and nearly smooth, hirsute glabrata, ovata a sother varieties, undoubted Grace of my plants belong to this species. Dinbrit is bruchy carpa may be my Ambio from Lot gilson; or is it rather Turnitis glabra? Vesiraria angustifolia Nott is my Plant for the Cherokees Streptanthus obtusifolies, Rook collected near the hot Springs, is my plant from near the same Lorality which I had confounded with Ar. sharulatus Mut. Draba eunei folia Mott, is Liasheiran Frake from Texa, Or is it withen the Draba similar to carolinana MISSOURI

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Draba bachycarpa IXG. is my incana for It Louis and Little Nork.

Draba Discrantha Mutt is in my opinion only a variety of D'. raroliniana vitt hispid Silieles. Silicles of Draba platgranpa at runeifolia are ofequal breadth, but the latter are twice as long. Inbu caroling has fruits longer and narrower than both. Stale pl. cum carol From Nuttalls Notes to the Horn of Arkansas Poa interrupta Natt. appears to be my plant for Noundorffo form, on the Jand of the Arkansas Cottom. Enigonium Longiphium Neitt prabably the same plant as mine of the same name Gerardia heterophylla Mitt = my G. prinnationa? Salvia longifolia Mutt is probably my azurea from Ahansas; but is handly different from the true d'ajurea Redeoma arkansana Nett probably my glabon or part of it. I think I have both the true glabon and this Arkansana. Dracorephalon intermedium Natt is my plant from Fort Smith without doubt. Hydrolea ovala Mutt pubercent, sprinose, the only one which Nuttall mentions in Arkansas, probably the some as my spinova. But d'also forme The quadrivalvis or à Timilar one i Arkanja Ang much suring fanguledes in Berling. Reparvifolius





Moter made in the Museum A Kengarden 1857. Copernien verifern og Brasil one of the wax pulms his a very Knotty stewar ; The Anots (bases of pactibles) por i beautiful sprine umagement. Tood beautifle When pelisher Carludovica palmati, a pantanarous plant, furnishes the substance for the Vanama hat chi-Luffa ægyptiarn is The 1 Towel gourd" Solving with beautiful Carge Sky blue flowers in beds before the Palenhouse

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MISSOURI BOTANICAL GARDEN

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Thurs Notes insolver flood the Hernand's the Hernand's Arigoles yeth brown Mesedless therhander the This oles, yeth brown bean, rommonly rulhvated in Muxito a ngogile Selinon Minus vembroides Jury. from Mother Mexita beause Nible fruit, which in Durings is brought inte leastet. Cheveria Scheenie Land. bot. 29. XVIII. tot 27 Whep. Rep. V. 794: _ Chihunhun, Potts, mungbe the sland of some signing Lyngian Cervantesi Beechgaven, pertination & Wyhli were four but all faithe south the my writing of except Population which is for the Fierra Madre. Parreta modelatitolli humbin foelite Hospegie Cariflon Buth. Bot Sulph. Ampulson globalos a 11 congest q Louselia vorriren 9. den i De Arl Jegg NE 60 Poulstemon imberbio Mend. & C. Von. O. minialion Lind., Obitant, ofthe pulling, var. of. last. Chilopuis Cheaning grunge 20 Overrentis alata \$165 H. grag. 944 MISSOURI

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Vinns religiosa - P. Kirlella 1884. J. oocarpa Schied i End. Synops. = 1. radiata Hoof LAm. Bot Beech. non Son o 973. 628. a O. lerophylla Scheid v Dey. let. M. patul, Carl D. rembroster Just. Gregg 52 Ludt. mongr. p.182 P. Teorote Chan & Sell. Sazittaria Giriganensis HADA III. 161 Damps new Panama WISSOURI BOTANICAL GARDEN. GEORGE ENGELMANN PAPERS

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